

Algebra A (Post Test)

Objective 1.1

(Answer B)

1. Between what two integers is $\sqrt{15}$?

- A. 2 and 3
- B. 4 and 5
- C. 6 and 7
- D. 7 and 8

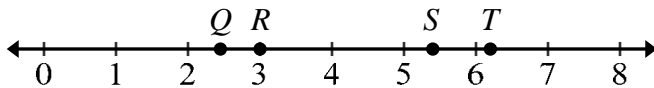
(Answer B)

2. Which number is rational?

- A. π
- B. $\sqrt{\frac{1}{4}}$
- C. 5.2719835...
- D. $\sqrt{8}$

(Answer A)

3. Which point on the number line represents $\sqrt{6}$?



- A. Q
- B. R
- C. S
- D. T

(Answer D)

4. Which number is irrational?

- A. $1.\overline{13}$
- B. 1.75
- C. $\sqrt{9}$
- D. $\sqrt{17}$

(Answer C)

5. Which of the following shows the numbers in the correct order from *least* to *greatest*?

- A. $-\frac{3}{4}, -2\frac{1}{4}, -2, -3$
- B. $-\frac{3}{4}, -2, -2\frac{1}{4}, -3$
- C. $-3, -2\frac{1}{4}, -2, -\frac{3}{4}$
- D. $-3, -2, -2\frac{1}{4}, -\frac{3}{4}$

Objective 1.2

(Answer C)

6. Simplify.

$$15 - \sqrt{81} \div 3$$

A. 2

B. 3

C. 12

D. $15 - \sqrt{27}$

(Answer B)

7. Simplify.

$$4\sqrt{8} - 2\sqrt{2}$$

A. $16 - 2\sqrt{2}$

B. $6\sqrt{2}$

C. $2\sqrt{2}$

D. $4\sqrt{8} - 2\sqrt{2}$

(Answer A)

8. Simplify.

$$3\sqrt{6} + 2\sqrt{6}$$

A. $5\sqrt{6}$

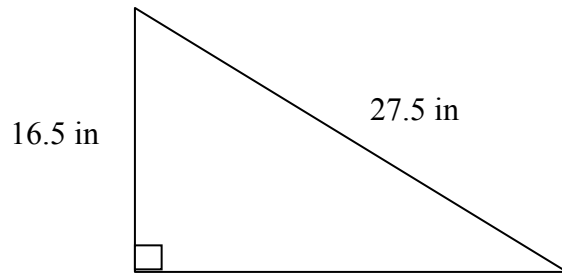
B. $5\sqrt{12}$

C. 15

D. $\sqrt{6}$

(Answer C)

9. Find the missing side length of the right triangle below



- A. 11 inches
- B. 19 inches
- C. 22 inches
- D. 32 inches

(Answer D)

10. It takes 2 pounds of apples to make 5 apple pies. How many pounds of apples are needed to make 8 pies?

- A. 20 pounds
- B. 5.2 pounds
- C. 4.2 pounds
- D. 3.2 pounds

Objective 2.1

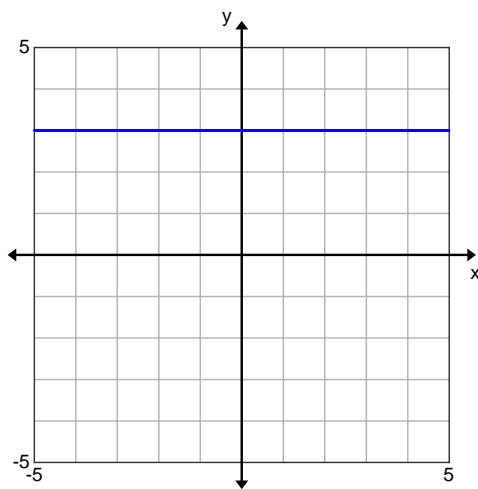
(Answer B)

11. What is the slope of a vertical line?

- A. 1
- B. undefined
- C. 0
- D. 100

(Answer C)

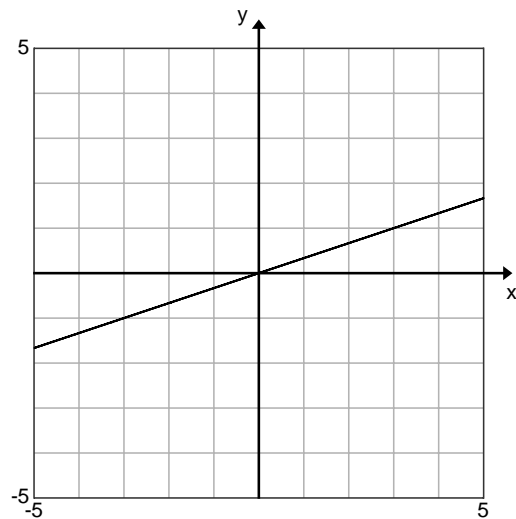
12. What is the **slope** of the line?



- A. horizontal
- B. vertical
- C. 0
- D. undefined

(Answer D)

13. What is a reasonable estimate of the slope of the line?



- A. 3
- B. -3
- C. $-\frac{1}{3}$
- D. $\frac{1}{3}$

(Answer C)

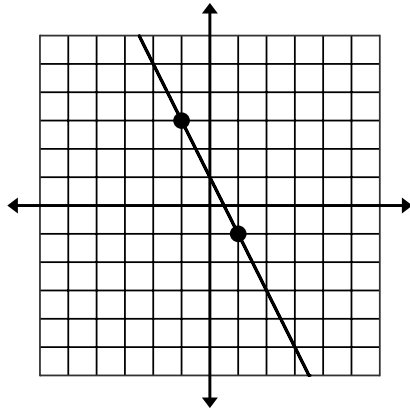
14. Find the slope (m) for the table above.

x	y
2	6
5	12
11	24

- A. $m = 0$
- B. $m = \frac{1}{2}$
- C. $m = 2$
- D. $m = 3$

(Answer A)

15. Which of the following is the correct slope of the line?

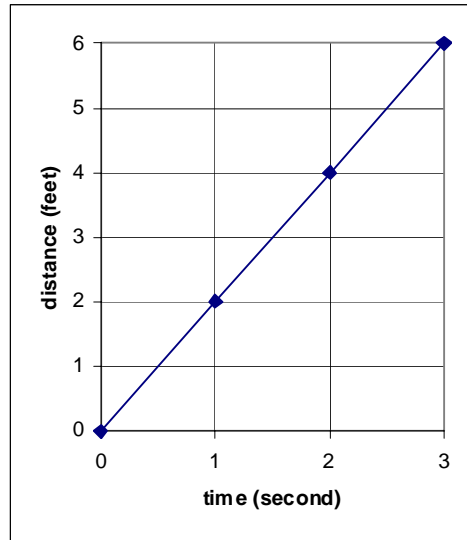


- A. -2
- B. 2
- C. $-\frac{1}{2}$
- D. $\frac{1}{2}$

Objective 2.2

(Answer D)

16. What was Carly's speed?



- A. 5 ft/sec
- B. 4 ft/sec
- C. 3 ft/sec
- D. 2 ft/sec

(Answer B)

17. Based on the pattern in the table, which of the following expressions could be used to determine the fare in dollars for a trip of m miles?

Time (minutes)	Height (meters)
0	300
2	240
4	180
6	120
8	60
10	0

- A. $2m + 1.5$
- B. $1.5m + 2$
- C. $3m + 0.5$
- D. $3.5m + 2$

(Answer D)

18. Which table shows a linear pattern of growth?

A.

x	y
0	3
1	6
2	7
3	9

B.

x	y
0	3
1	4
2	5
3	7

C.

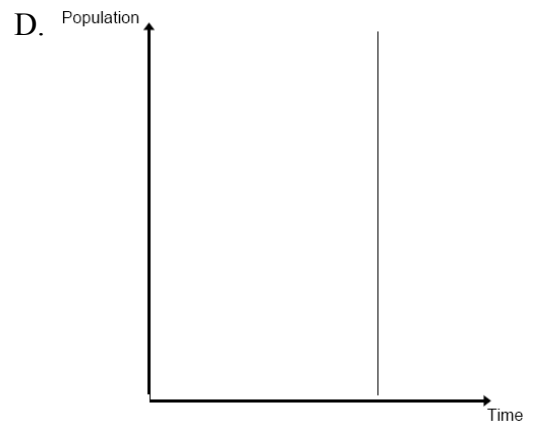
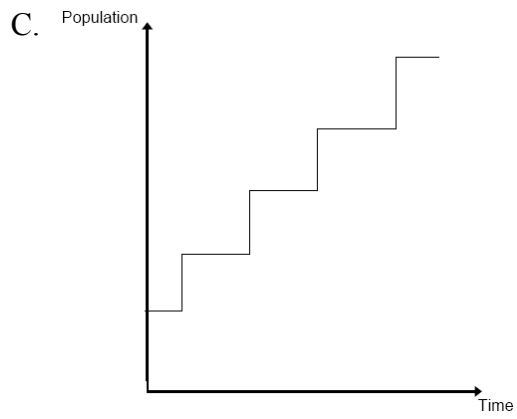
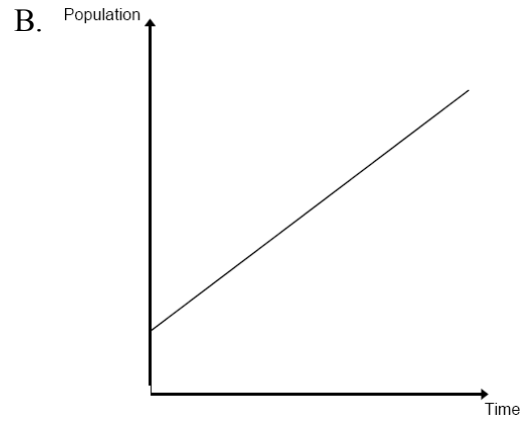
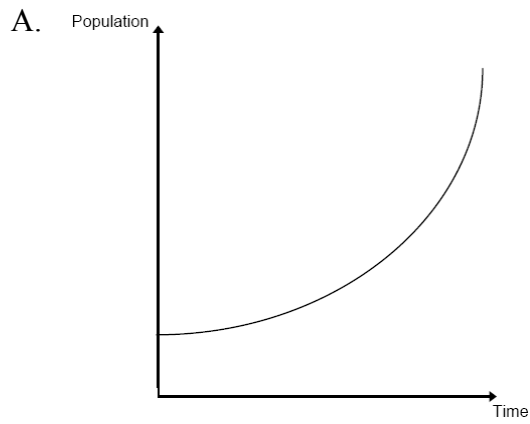
x	y
0	3
1	4
2	6
3	9

D.

x	y
0	3
1	6
2	9
3	12

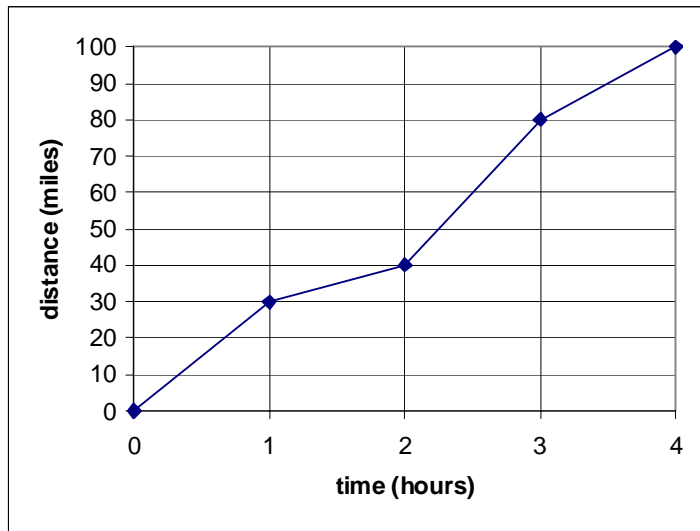
(Answer B)

19. Which graph models a population increasing at constant rate?



(Answer C)

20. During which interval of time did the car travel the fastest?

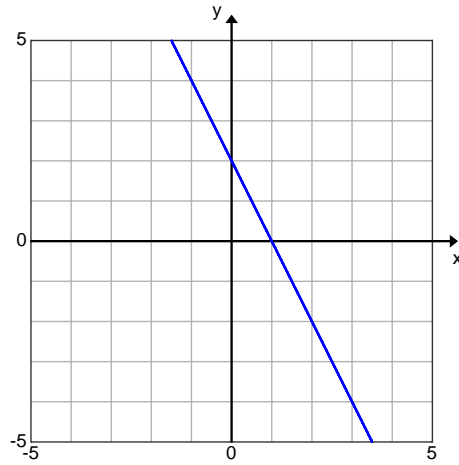


- A. 0 to 1 hours
- B. 1 to 2 hours
- C. 2 to 3 hours
- D. 3 to 4 hours

Objective 2.3

(Answer B)

21. What is the y-intercept of the graph below?



- A. $(0, -2)$
- B. $(0, 2)$
- C. $(1, 0)$
- D. $(0, 1)$

(Answer A)

22. What is the x-intercept of the graph of the following data?

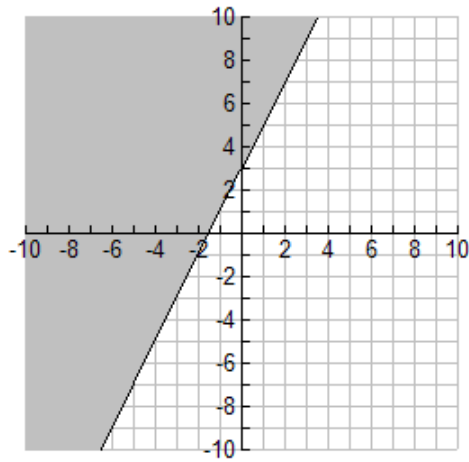
x	y
-1	0
0	3
1	6

- A. $(-1, 0)$
- B. $(0, 3)$
- C. $(1, 6)$
- D. $(3, 0)$

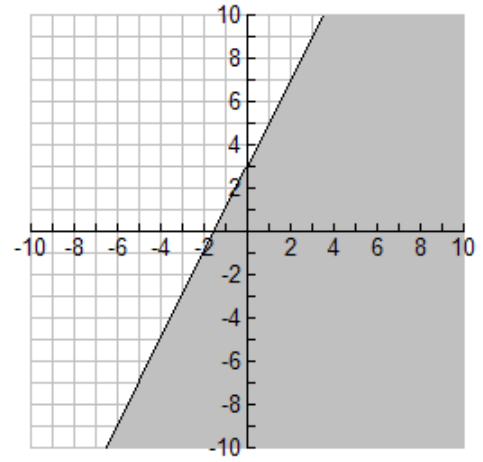
(Answer B)

23. Which of the following is the correct graph of $y \leq 2x + 3$?

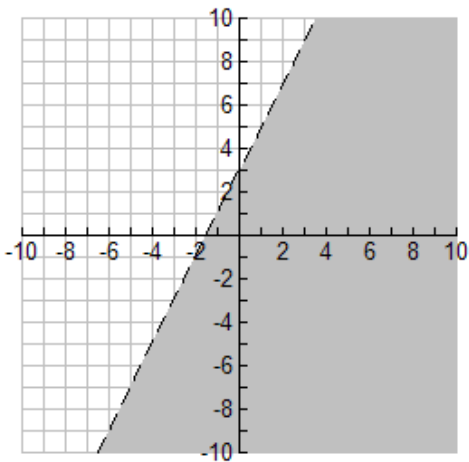
A.



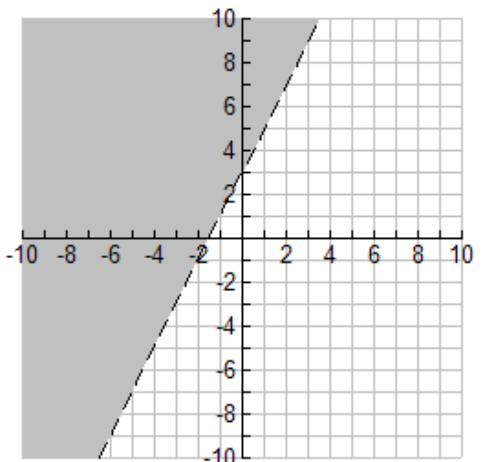
B.



C.

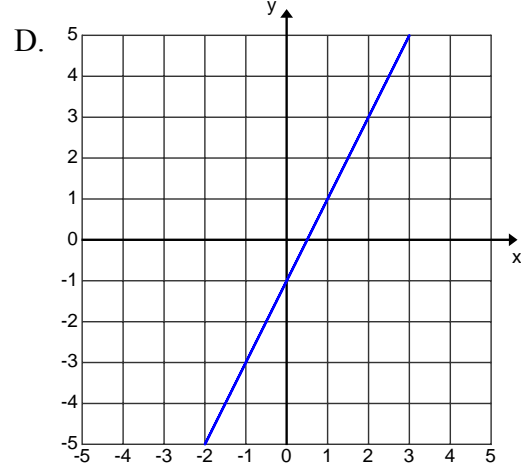
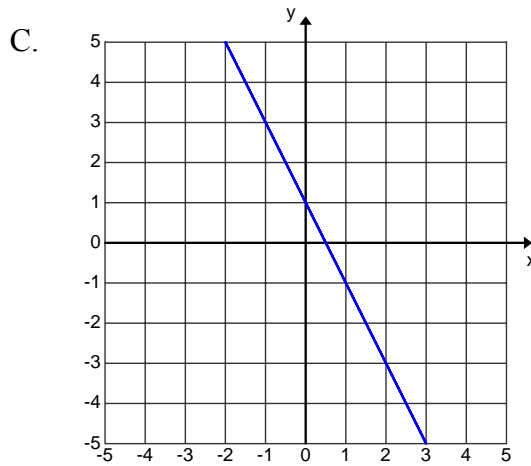
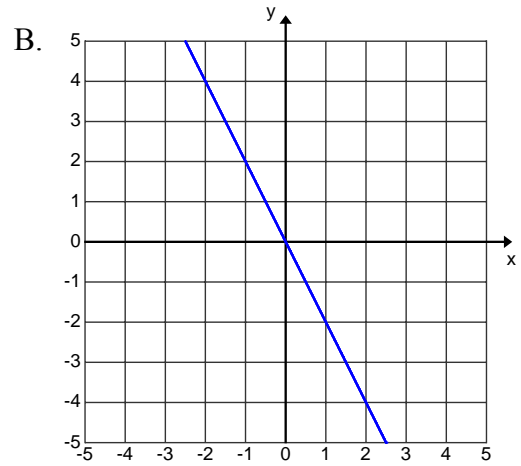
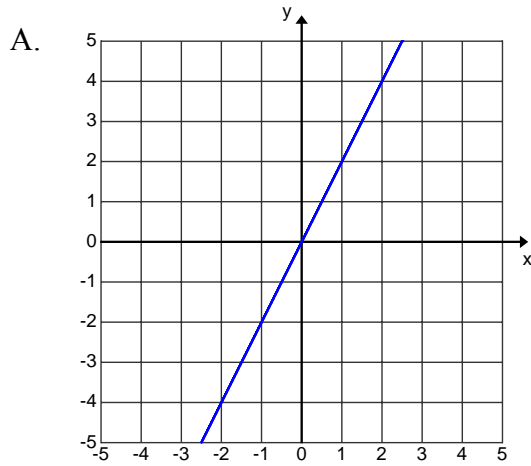


D.



(Answer D)

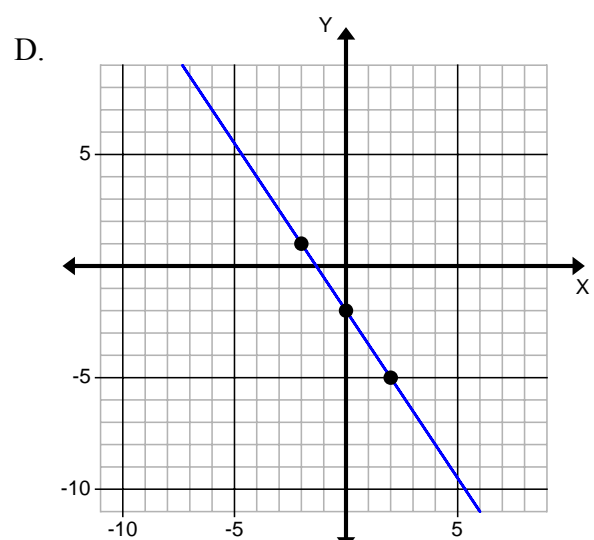
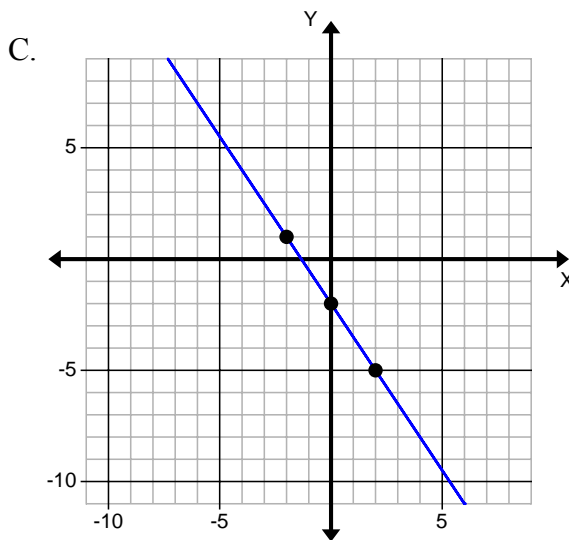
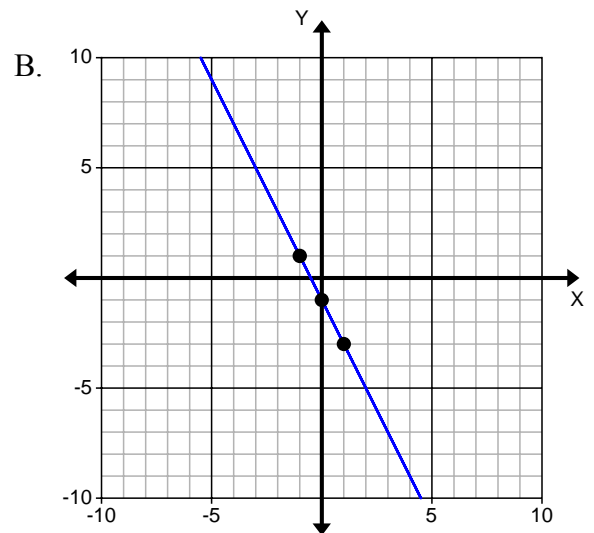
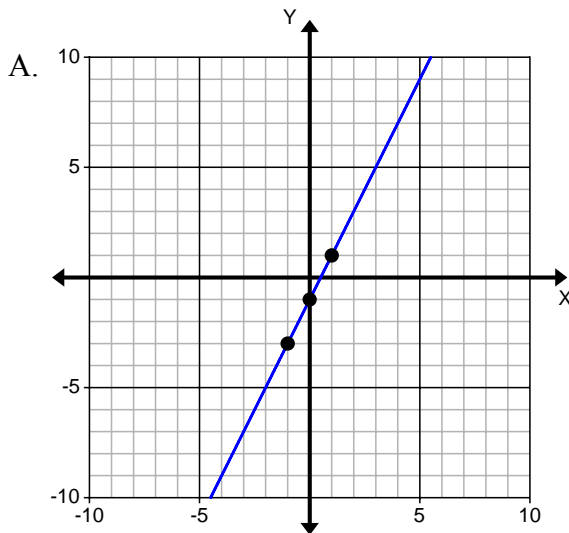
24. Which of the following shows the correct graph of $y = 2x - 1$?



(Answer A)

25. Which of the following graphs represent the table of values shown below?

x	y
-1	-3
0	-1
1	1



Objective 3.1

(Answer D)

26. Which expression is equivalent to $\frac{4x^2yz}{24xy^4z^2}$?

A. $\frac{xyz}{6y^3z}$

B. $\frac{1}{6xy^3z}$

C. $\frac{1}{xy^3z}$

D. $\frac{x}{6y^3z}$

(Answer C)

27. Simplify $3a^3 \cdot 5a^4$.

A. $8a^7$

B. $8a^{12}$

C. $15a^7$

D. $15a^{12}$

(Answer A)

28. Simplify $(3k^4)^3$.

A. $27k^{12}$

B. $27k^7$

C. $9k^{12}$

D. $9k^7$

(Answer C)

29. Simplify $\frac{a^3b^3}{a^5b^2}$.

A. $\frac{ab^6}{ab^7}$

B. a^8b

C. $\frac{b}{a^2}$

D. a^2b

(Answer B)

30. Which one of the following represents the product $(-4xy^3z^2)(-7x^3y^3z)$?

A. $-28x^4y^6z^3$

B. $28x^4y^6z^3$

C. $28x^3y^9z^2$

D. $-28x^2y^2z^2$

Objective 3.2

(Answer B)

31. Solve the inequality given below.

$$-2x - 4 < 22$$

- A. $x < -13$
- B. $x > -13$
- C. $x < -9$
- D. $x > -9$

(Answer D)

32. Solve the following formula for t .

$$I = Prt$$

- A. $t = I - Pr$
- B. $t = I(P - r)$
- C. $t = IPr$
- D. $t = \frac{I}{Pr}$

(Answer A)

33. Solve the following equation.

$$4(x + 2) = 2x - 10$$

- A. -9
- B. -6
- C. 6
- D. 9

(Answer C)

34. Solve the following equation.

$$2(x + 4) - 5x = -16$$

- A. $\frac{20}{3}$
- B. $-\frac{20}{3}$
- C. 8
- D. -8

(Answer B)

35. Solve for x: $\frac{x-2}{12} = \frac{1}{2}$

- A. 6
- B. 8
- C. 12
- D. 144

Objective 4.1

(Answer C)

36. Carrie is filling a rectangular swimming pool. The pool has a length of 20 ft., a width of 20 ft., and is 5 ft. deep. How much water will the pool hold?

- A. 45 ft^3
- B. 400 ft^3
- C. 800 ft^3
- D. $1,000 \text{ ft}^3$

(Answer C)

37. Which of the following is the algebraic expression that represents the **perimeter** of a triangle whose sides have lengths a , b , c ?

- A. abc
- B. $\frac{1}{2}(abc)$
- C. $a + b + c$
- D. $\frac{1}{2}(a + b + c)$

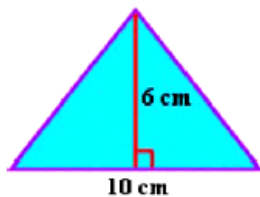
(Answer C)

38. Jose is putting carpet in his bedroom. His room is rectangular with a length of 15 ft and a width of 12 ft. How much carpet will he need?

- A. 27 ft^2
- B. 54 ft^2
- C. 108 ft^2
- D. 225 ft^2

(Answer C)

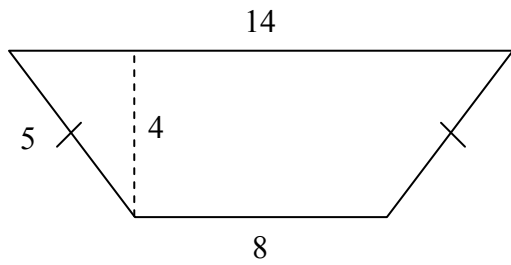
39. What is the area of the triangle?



- A. 15 cm^2
- B. 16 cm^2
- C. 30 cm^2
- D. 60 cm^2

(Answer A)

40. What is the perimeter of the trapezoid above?



- A. 32 feet
- B. 44 feet
- C. 56 feet
- D. 72 feet

Objective 4.2

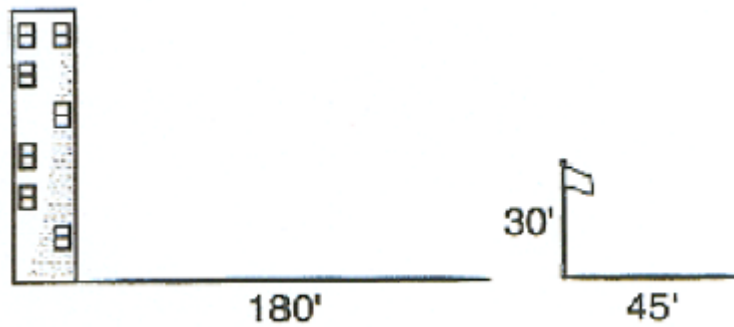
(Answer D)

41. Lauren is having a 5 inch by 7 inch photo made into a similar poster. The poster is two feet wide. How long will it be?

- A. $\frac{14}{5}$ inches
- B. $\frac{10}{7}$ inches
- C. 30 inches
- D. 33.6 inches

(Answer D)

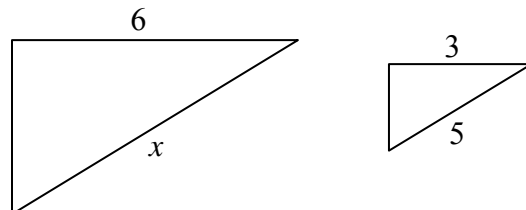
42. A flagpole is 30 feet tall and casts a shadow that is 45 feet long. At the same time, a building nearby casts a 180 foot shadow. How tall is the building?



- A. 105 feet
- B. 120 feet
- C. 255 feet
- D. 270 feet

(Answer A)

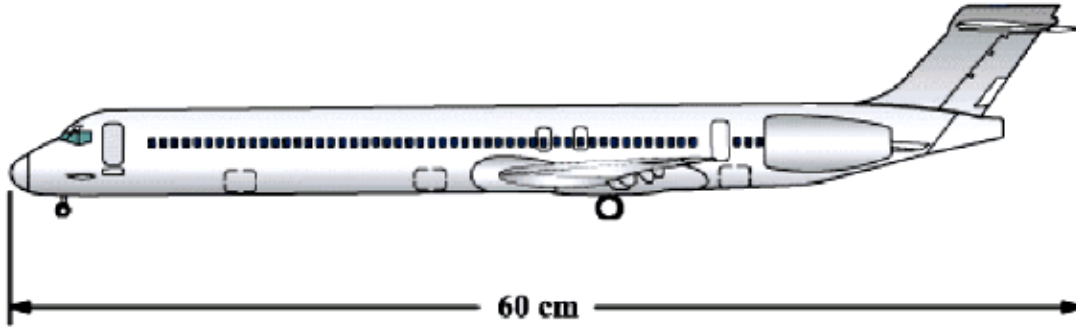
43. What is the value of x for the pairs of similar triangles above?



- A. 10
- B. 12
- C. 15
- D. 16

(Answer D)

44. The length of the airplane in this scale drawing is 60 centimeters. Use the scale to determine the length of the actual plane.

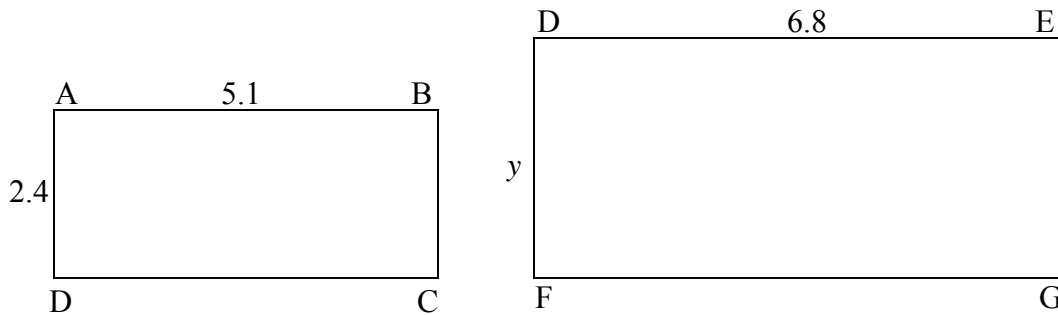


Scale: 1 centimeter = 2.35 feet

- A. 30 feet
- B. 60 feet
- C. 120 feet
- D. 141 feet

(Answer A)

45. Rectangle ABCD and Rectangle DEFG are similar. Find y :



- A. 3.2
- B. 3.4
- C. 3.6
- D. 3.8